CLAIMS:

1. Display apparatus comprising an image-generating screen repetitively scanned at a predetermined rate to display images, and a backlight for illuminating the screen, the backlight including:

- at least one light source;
- a light guide arranged to constrain light derived from said at least one source by total internal reflection, the light guide having an output surface with various locations from which light may be selectively coupled; and
- scanning means configured to selectively couple light from said various locations on the output surface of said light guide to sequentially and repeatedly illuminate selected areas of said screen in synchronism with the repetitive scanning of said screen.

2. Display apparatus according to claim 1, configured to couple light sequentially from said various locations during continuous activation of the at least one light source.

3. Display apparatus according to claim 1 or claim 2, wherein the screen comprises a liquid crystal display screen.

4. Display apparatus according to any preceding claim, wherein the scanning means comprise a flexible member juxtaposed with the output surface of the light guide, capable of being selectively attracted into local contact with said surface.

5. Display apparatus according to claim 4, wherein said flexible member comprises a polymeric light-scattering foil.

6. Display apparatus according to claim 4 or claim 5, wherein the scanning means comprise transparent electrical contacts and the flexible member is arranged to be moved relative to the output surface of the light guide electrostatically under the influence of dynamic voltage waveforms applied to said contacts.

7. Display apparatus according to any of claims 1 to 3, wherein the scanning means comprise a thin layer of a liquid crystal gel disposed substantially parallel to the output surface of the light guide.

8. Display apparatus according to claim 7, wherein said liquid crystal gel is prepared from a mixture of a nematic liquid crystal, a liquid crystal diacrylate monomer and a photoinitiator.

9. Display apparatus according to claim 8, wherein the nematic liquid crystal mixture exhibits negative dielectric anisotropy.

10. Display apparatus according to any of claims 1 to 3, wherein the scanning means comprise a thin layer of a polymer dispersed liquid crystal disposed substantially parallel to the output surface of the light guide.

11. Display apparatus according to any of claims 7 to 10, wherein the scanning means comprise electrodes disposed on opposing surfaces and the apparatus is arranged to supply said electrodes with dynamic waveforms to selectively switch the scanning means between a substantially transparent non-scattering state and a scattering state.

12. Display apparatus according to any of claims 7 to 10, wherein the scanning means comprise electrodes disposed interdigitatedly on one surface and the apparatus is arranged to supply said electrodes with dynamic waveforms which form an electrical field to selectively switch the scanning means between a substantially transparent state and a scattering state.

13. Display apparatus according to any preceding claim, wherein each of said various locations forms part of a different elongate backlighting area, said backlighting areas being arranged in a one dimensional array.

14. Display apparatus according to any of claims 1 to 12, wherein each of said various locations forms part of a different substantially rectangular backlighting area, said backlighting areas being arranged in a two dimensional array.

15. Display apparatus according to claim 13 or 14, each said backlighting area corresponding to 20% or less of the total surface area of the said screen.

16. Display apparatus according to claim 13, 14 or 15, each said backlighting area corresponding to 2% or more of the total surface area of the said screen.

17. Display apparatus according to any of claims 13 to 16, wherein each said backlighting area corresponds in size to a plurality of pixels on said screen.

18. Display apparatus according to any preceding claim, wherein said light guide further comprises an input surface disposed to receive said light, the input surface including a plurality of spaced-apart incoupling elements having respective sidewalls extending transversely of said input surface.

19. Display apparatus according to claim 18, the backlight further comprising reflective means disposed in spaces between said incoupling elements.